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Commissioner for Patents, Washington, D.C. 20231, on

July 18, 2001

Date of Deposit

Thomas J. Wrona, Ph.D., Reg. No. 44,410

Name of Applicant, Assignee or
Registered Representative

Signature

7/18/01

Date of Signature

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Our Case No.: 10114-6

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Peng G. Wang et al.

Serial No.: 09/758,525

Filing Date: January 10, 2001

For: GLYCOCONJUGATE SYNTHESIS USING A
PATHWAY-ENGINEERED ORGANISM

Examiner: To Be Assigned

Group Art Unit No.: 1633

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed below and on the attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

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The references now cited are the following:

U.S. PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
5,180,674	1/19/93	Roth	435/288	4/11/91
5,288,637	2/22/94	Roth	435/288	10/02/92
5,583,042	12/10/96	Roth	435/288	3/22/94
5,879,912	3/09/99	Roth	435/72	6/17/96
6,030,815	2/29/00	DeFrees et al.	435/97	4/10/96

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY
EP 0 861 902 A1	9/02/98	EPO ✓
EP 0 870 841 A1	10/14/98	EPO ✓
WO 92/14827	9/03/92	WIPO ✓
WO 97/33974	9/18/97	WIPO ✓
WO 98/11247	3/19/98	WIPO ✓
WO 98/12343	3/26/98	WIPO ✓

OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)

Wong et al., "Enzyme-Catalyzed Synthesis of N-Acetylactosamine with in Situ Regeneration of Uridine 5-Diphosphate Glucose and Uridine 5-Diphosphate Galactose", J. Org. Chem., Vol. 47, 1982, pp 5416-5418
Joachim Thiem et al., "Synthesis of Galactose-Terminated Oligosaccharides by Use of Galactosyltransferase", Synthesis, 1992, pp 141-145
Naoki Asano et al. "Enzymic synthesis of α - and β -D-glucosides of 1-deoxynojirimycin and their glycosidase inhibitory activities", Carbohydrate Research, Vol. 258, 1994, pp 255-266
Andre Lubineau et al. "Porcine liver (2 \rightarrow 3) - α -sialyltransferase: substrate specificity studies and application of the immobilized enzyme to the synthesis of various sialylated oligosaccharide sequences", Carbohydrate Research, Vol. 300, 1997, pp 161-167
Christelle Breton et al. "Sequence-Function Relationships of Prokaryotic and Eukaryotic Galactosyltransferases", J. Biochem., Vol. 123, 1998, pp 1000-1009
Satoshi Koizumi et al., "Large-scale production of UDP-galactose and globotriose by coupling metabolically engineered bacteria", Nature Biotechnology, Vol. 16, 1998, pp 847-850
Xi Chen et al., "Carbohydrates on transplantation", Chemical Biology, 1999, pp 650-658

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OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)	
Tetsuo Endo et al., "Large-scale production of <i>N</i> -acetylglucosamine through bacterial coupling", Carbohydrate Research, Vol. 316, 1999, pp 179-183	
Brenda Loughheed et al., "Glycosyl Fluorides Can Function as Substrates for Nucleotide Phosphosugar-dependent Glycosyltransferases", The Journal of Biological Chemistry, Vol. 274, No. 53, 1999, pp 37717-37722	
Leigh Revers et al., "Development of recombinant, immobilized β -1, 4-mannosyltransferase for use as an efficient tool in the chemoenzymatic synthesis of <i>N</i> -linked oligosaccharides", Biochimica et Biophysica Acta, Vol. 1428, 1999, pp 88-98	
Xi Chen, "Cloning the Donor Cofactor of Bovine α 1,3-Galactosyltransferase by Fusion with UDP-galactose 4-Epimerase", The Journal of Biological Chemistry, Vol. 275, No. 41, 2000, pp 31594-31600	
Kiyotaka Fujita et al., "Synthesis of Neoglycoenzymes with Homogeneous <i>N</i> -Linked Oligosaccharides Using Immobilized Endo- β - <i>N</i> -acetylglucosaminidase A", Biochemical and Biophysical Research Communications, Vol. 267, 2000, pp 134-138	
T. Endo et al., "Large-scale production of CMP-NeuAc and sialylated oligosaccharides through bacterial coupling", Appl. Microbiol Biotechnol, Vol. 53, 2000 pp 257-261	
Kazukiko Tabata et al., "Production of UDP- <i>N</i> -acetylglucosamine by coupling metabolically engineered bacteria", Biotechnology Letters, Vol. 22, 2000, pp 479-483	

In accordance with 37 C.F.R. § 1.97(g),(h), this Information Disclosure Statement is not to be construed as a representation that a search has been made and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

This Information Disclosure Statement is being filed prior to the receipt of the first Official Action reflecting an examination on the merits and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with filing of this Information Disclosure Statement. However, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is hereby authorized to deduct said fees from Brinks Hofer Gilson & Lione Deposit Account No. 23-1925.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'T. Wrona', is written over a horizontal line.

Thomas J. Wrona
Registration No. 44,410
Agent for Applicants

BRINKS HOFER GILSON & LIONE
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Chicago, IL 60610
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FORM PTO-1449	SERIAL NO. 09/758,525	CASE NO. 10114/6
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (use several sheets if necessary)	FILING DATE January 10, 2001	GROUP ART UNIT 1633
	APPLICANT(S): Peng G. Wang et al.	

REFERENCE DESIGNATION			U.S. PATENT DOCUMENTS			
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
	A1	5,180,674	1/19/93	Roth	435/288	4/11/91
	A2	5,288,637	2/22/94	Roth	435/288	10/02/92
	A3	5,583,042	12/10/96	Roth	435/288	3/22/94
	A4	5,879,912	3/09/99	Roth	435/72	6/17/96
	A5	6,030,815	2/29/00	DeFrees et al.	435/97	4/10/96

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	A6	EP 0 861 902 A1	9/02/98	EPO		
	A7	EP 0 870 841 A1	10/14/98	EPO		
	A8	WO 92/14827	9/03/92	WIPO		
	A9	WO 97/33974	9/18/97	WIPO		
	A10	WO 98/11247	3/19/98	WIPO	in Japanese	Abstract
	A11	WO 98/12343	3/26/98	WIPO	in Japanese	Abstract

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	A12	Wong et al., "Enzyme-Catalyzed Synthesis of N-Acetyllactosamine with in Situ Regeneration of Uridine 5-Diphosphate Glucose and Uridine 5-Diphosphate Galactose", J. Org. Chem., Vol. 47, 1982, pp 5416-5418
	A13	Joachim Thiem et al., "Synthesis of Galactose-Terminated Oligosaccharides by Use of Galactosyltransferase", Synthesis, 1992, pp 141-145
	A14	Naoki Asano et al. "Enzymic synthesis of α - and β -D-glucosides of 1-deoxynojirimycin and their glycosidase inhibitory activities", Carbohydrate Research, Vol. 258, 1994, pp 255-266
	A15	Andre Lubineau et al. "Prcine liver (2 \rightarrow 3) - α -sialyltransferase: substrate specificity studies and application of the immobilized enzyme to the synthesis of various sialylated oligosaccharide sequences", Carbohydrate Research, Vol. 300, 1997, pp 161-167
	A16	Christelle Breton et al. "Sequence-Function Relationships of Prokaryotic and Eukaryotic Galactosyltransferases", J. Biochem., Vol. 123, 1998, pp 1000-1009
	A17	Satoshi Koizumi et al., "Large-scale production of UDP-galactose and globotriose by coupling metabolically engineered bacteria", Nature Biotechnology, Vol. 16, 1998, pp 847-850
	A18	Xi Chen et al., "Carbohydrates on transplantation", Chemical Biology, 1999, pp 650-658
	A19	Tetsuo Endo et al., "Large-scale production of N-acetyllactosamine through bacterial coupling", Carbohydrate Research, Vol. 316, 1999, pp 179-183

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	JUL 20 2001	SERIAL NO. 09/758,525	CASE NO. 10114/6
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT		FILING DATE January 10, 2001	GROUP ART UNIT 1531
(use several sheets if necessary)		APPLICANT(S): Peng G. Wang et al.	

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EXAMINER INITIAL	OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)	
	A20	Brenda Loughheed et al., "Glycosyl Flourides Can Function as Substrates for Nucleotide Phosphosugar-dependent Glycosyltransferases", The Journal of Biological Chemistry, Vol. 274, No. 53, 1999, pp 37717-37722
	A21	Leigh Revers et al., "Development of recombinant, immobilized β -1, 4-mannosyltransferase for use as an efficient tool in the chemoenymatic synthesis of N-linked oligosaccharides", Biochimica et Biophysica Acta, Vol. 1428, 1999, pp 88-98
	A22	Xi Chen, "Changing the Donor Cofactor of Bovine α 1,3-Galactosyltransferase by Fusion with UDP-galactose 4-Epimerase", The Journal of Biological Chemistry, Vol. 275, No. 41, 2000, pp 31594-31600
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	A24	T. Endo et al., "Large-scale production of CMP-NeuAc and sialylated oligosaccharides through bacterial coupling", Appl. Microbiol Biotechnol, Vol. 53, 2000 pp 257-261
	A25	Kazukiko Tabata et al., "Production of UDP-N-acetylglucosamine by coupling metabolically engineered bacteria", Biotechnology Letters, Vol. 22, 2000, pp 479-483

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